



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|-----------------------|---------------------------------|-----------------------------|
| 10/826,799 | 04/15/2004 | Marshall Thomas DePuc | 10030184-1 | 1464 |
| 57299 | 7590 | 01/30/2008 | | |
| Kathy Manke Avago Technologies Limited 4380 Ziegler Road Fort Collins, CO 80525 | | | EXAMINER LEWIS, DAVID LEE | |
| | | | ART UNIT 2629 | PAPER NUMBER |
| | | | NOTIFICATION DATE 01/30/2008 | DELIVERY MODE ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

avagoip@system.foundationip.com
kathy.manke@avagotech.com
scott.weitzel@avagotech.com

| | | | |
|--|--------------------------------------|-------------------------------------|--|
| <div style="border: 1px solid black; width: 150px; height: 20px; margin: 0 auto;"></div> Office Action Summary | Application No. 10/826,799 | Applicant(s) DEPUE ET AL. | |
| | Examiner David L. Lewis | Art Unit 2629 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5 and 8-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,5 and 8-17 is/are allowed.
- 6) ☐ Claim(s) 18-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.



DETAILED ACTION

1. The indicated allowability of claims 18-27 is withdrawn in view of the newly discovered reference(s) to Gruhlke et al. (2005/0024624). Previously allowed Claims 1, 5, and 8-17 remain allowed over Gruhlke et al. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 18-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Gruhlke et al. (2005/0024624).**

As in claim 18, Gruhlke et al. teaches of In an optical device, a method of optical navigation, figures 1-4, paragraph 7, said method comprising:

Art Unit: 2629

detecting at said optical device a first speckle pattern produced by light comprising light at a first wavelength reflecting from a surface, **paragraph 30**;

detecting at said optical device a second speckle pattern produced by light comprising light at a second wavelength reflecting from said surface, **paragraph 32**;

and measuring distance between said optical device and said surface using a first quantifiable value associated with said first speckle pattern and a second quantifiable value associated with said second speckle pattern, **paragraph 33 to 35 or paragraph 48 to 50**.

Wherein Gruhlke teaches of navigation based on the measurement of a first speckle pattern at a first wavelength and a second speckle pattern at a second wavelength in relation to the distance from the surface to the sensor, Z, such that the motion in the x and y direction is measured directly by detectors.

As in claim 19, Gruhlke et al. teaches wherein said first and second wavelengths are substantially the same, wherein said distance is measured using the ratio of said first quantifiable value and said second quantifiable value, paragraph 21, 28, 33-35, and 46.

As in claim 20, Gruhlke et al. teaches wherein said first and second wavelengths are different from each other, wherein said distance is

Art Unit: 2629

measured using the difference between said first quantifiable value and said second quantifiable value and the difference between said first and second wavelengths, paragraph 21, 28, 33-35, and 46

As in claim 21, Gruhlke et al. teaches wherein said light at said first wavelength and said light at said second wavelength are emitted from a single light source, figures 1 and 4.

As in claim 22, Gruhlke et al. teaches wherein said light at said first wavelength is provided by a first light source and said light at said second wavelength is provided by a second light source, figure 2b items 250 and 210.

As in claim 23, Gruhlke et al. teaches wherein said optical device comprises a single detector for detecting said first and second speckle patterns, figure 1 item 120, figure 3.

As in claim 24, Gruhlke et al. teaches wherein said optical device comprises a first detector for detecting said first speckle pattern and a second detector for detecting said second speckle pattern, figures 2b and 4.

As in claim 25, Gruhlke et al. teaches wherein said first and second quantifiable values correspond to the average speckle size of said first and second speckle patterns, respectively, paragraphs 33-35 and 48-50.

As in claim 26, Gruhlke et al. teaches wherein said first and second quantifiable values correspond to the number of speckles in said first and second speckle patterns, respectively, paragraphs 43, 46-49.

As in claim 27, Gruhlke et al. teaches wherein said first and second quantifiable values correspond to the amount of brightness associated with said first and second speckle patterns, respectively, paragraphs 43, 46-49.

Allowable Subject Matter

3. Claims 1, 5, 8-18 are allowed. Gruhlke et al. may imply but fails to explicitly teach of said ratio feature and the implication is not obvious.

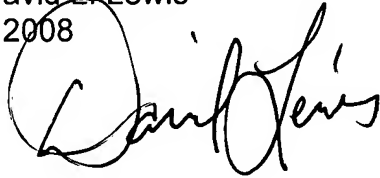
Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **David L. Lewis** whose telephone number is **(571) 272-7673**. The examiner can normally be reached on MT and THF from 8 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached on **(571) 272-7681**. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571)-273-8300.

Art Unit: 2629

5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner: David L. Lewis
January 22, 2008

A handwritten signature in black ink, appearing to read "David Lewis", is written over the printed name and date.